

Small Farm News

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SMALL FARM CENTER • COOPERATIVE EXTENSION • UNIVERSITY OF CALIFORNIA

Clover Stornetta Dairy: A Niche Marketing Approach

by Desmond Jolly, agricultural economist, Department of Agricultural and Resource Economics, UC Davis

Clover Stornetta Farms in Sonoma County, California, has taken a different approach to dairy production and marketing. Company President Dante Benedetti outlined the processing company's approach in a presentation at the May 12, 1998, symposium, "Animal Husbandry and Public Health: Ethics and Actions."



Dante Benedetti

Clover Stornetta is a privately owned company with eight owners. It produces about 55,000 gallons of milk per day and, according to Benedetti, is the fastest growing dairy in California. Company revenues are estimated at \$60 million per year, with dairy products marketed from Humboldt to Monterey County, predominantly along the California coast.

In 1995, Clover Stornetta decided to separate itself from the mainstream dairy industry and carve out a unique niche in the regional dairy market. Their perception was that the conventional approach was too unresponsive to evolving consumer values and preferences.

Demographically, the greater Bay Area market, which is primarily Clover Stornetta's market, comprises a highly diverse population with large segments of well educated, affluent, socially conscious people with high levels of environmental and health consciousness. The commercialization of BST in 1995 crystallized the company's new approach. Letters received by the company from consumers and retailers on the cutting edge of consumer trends indicated serious concerns about BST. Even though the Food and Drug Administration (FDA) process precluded labeling with respect to BST, the company decided to go against the BST route and carve out a different, consumer responsive posture.

Product Differentiation

Clover Stornetta's strategic marketing plan indicated a need for a new kind of product positioning, one that could generate price differentials based on added values that the

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rBST: Adoption and Concerns of California's Dairy Producers

by L.J. (Bees) Butler, UC Cooperative Extension economist

What is rBST? Bovine somatotropin is a naturally occurring (peptide) hormone produced in the pituitary gland of cows. It was discovered in the 1920s, and originally called bovine growth hormone or BGH. Experiments in the 1930s revealed that BGH, when extracted from the pituitary gland of a cow and injected into another cow, could increase milk production in the recipient cow.

In the late 1970s, Dale Bauman, Ph.D., an animal scientist at Cornell University, successfully transferred the gene responsible for BGH production in cows to a bacterium. The resulting product was called recombinant bovine growth hormone, or rBGH. Simple multiplication of

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Director's Message

Got Milk? Marketing Alternatives

The American dairy farm, perhaps more than any other type of farming operation, has typified the popular image of the American family farm. For that reason, along with the significance of milk to human nutrition and health, public policy has not only regulated the safety and quality of milk, but has supported a dependable and adequate supply. As science and its applications to animal selection and breeding have increased the productivity of dairy cows, public policies have protected dairy operations by stabilizing milk prices. A key method of accomplishing this has been through the purchase of manufactured milk products.



Desmond Jolly

But public policies are changing, and dairy price supports will be eliminated by the beginning of the new millennium. This will impose a new marketing environment on dairy producers, and necessitate adjustments of various sorts. This issue of our newsletter presents three different models of adjustment to the changing economic and political landscape. The first model represents a fairly traditional approach that entails efforts to increase cow and resource productivity by increasing volumes and decreasing costs. The latest wrinkle in this approach is the development and marketing of the hormone BST. Its use is complicated by concerns about animal welfare and consumer reactions.

The second model is provided by the case of Clover Stornetta Farms, which has

repositioned its product, production methods, and marketing to respond to consumer concerns and consumer preferences. Yet a third approach to marketing is organic milk and milk-derived products, described here by the case study about the Straus Family Creamery.



Clearly, as the policy environment for milk and the dairy industry changes, the industry will become more differentiated. Entrepreneurial approaches will vary according to the resources, interests, preferences, and constraints of the various operations. But the three approaches described here show some patterns that are emerging as options utilized by producers or groups of producers.

20th Anniversary Celebration

This year the University of California Small Farm Program celebrates its twentieth anniversary. Created by legislation in 1979, the Small Farm Program has endured and evolved in its efforts to effectively serve small-and moderate scale agricultural producers and alternative marketers in the state of California.

Through applied research, demonstrations, workshops and conferences, the Program has extended cutting edge informa-



tion to users. Through our web site, our newsletter, and our information system, we now have a global reach.

This year of celebration will be initiated by the Continuing Conference on Small Farms on March 30 and 31, which includes the Celebration Banquet on March 30th. U.S. Department of Agriculture (USDA) Deputy Secretary Richard Rominger will be the Celebration Banquet's keynote speaker. Awards of Excellence will be presented for exemplary achievements in farming and agricultural education and research. Other activities throughout the year are planned to commemorate the 20th anniversary.

USDA Settlement with African-American Farmers

USDA is a farflung enterprise operating in some areas under constraints imposed by regional or local cultures. African-American farmers have charged in a lawsuit against USDA — and USDA now seems to have implicitly agreed — that the manner in which USDA field offices in the south operated was tantamount to expropriation of their land.

The USDA settlement may be viewed as too little, too late, but it represents a form of reconciliation. The farmers, who had in some cases been wrongfully dispossessed of their farms, will not be made whole in terms of restoration of their farms. But the settlement will stimulate greater efforts at equal treatment in the allocation of resources and the extension and operation of services to USDA clientele.



program news

Visitors

A delegation of 14 advisors from war affected zones in **Croatia** recently visited the Small Farm Center. The delegation represented the government of Croatia's agricultural advisory program, the faculties of agriculture in Croatia, and the Chamber of Commerce.

The Center also hosted several visitors from North Korea, including **Kim Sam Yong**, **O Kyong Col**, and **Pak Chang Hong** from the Academy of Agricultural Sciences; **Tong Kyong Chol**, from the Korean Committee for Solidarity with World Peoples; and **Randy Ireson**, from the American Friends Service Committee, Salem, Oregon. The University of California Genetic Resources Conservation Program co-hosted the group.

Barry Philp, from Primary Industries and Resources in South Australia, also visited the Center to discuss concepts of electronic information delivery systems.

Contracts

The Small Farm Center has entered into a cooperative agreement with the U.S. Department of Agriculture to lead the production of a professional development educational curriculum for managers of farmers' markets. The Small Farm Center will work in concert with industry representatives to develop the program.

Presentations

Desmond Jolly presented a keynote speech at the Values-Added Agriculture Conference at Lincoln University in St. Louis, Missouri, on October 2, 1998. The title of the talk was "Prospects for Organic Agriculture as a Small Farm Alternative."

Jolly also presented a keynote speech titled "The California Small Farm Information System and Network" at the Small Farm and Sustainability Conference sponsored by the University of Missouri at Columbia, on November 5, 1998.

New Director Named

Sean Swezey, Ph.D., an entomologist and associate director of the UC Santa Cruz Center for Agroecology and Sustainable Food Systems, has been named the new director of the UC Sustainable Agriculture Research and Education Program (SAREP). Swezey, who began his duties February 1, has worked with a variety of growers, scholars, and county-based Cooperative Extension personnel.

SAREP provides support for research and educational outreach activities that encourage economically viable and sustainable production, processing, and consumption practices.

Small Farm Center

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The Small Farm Center links those who need information on small-scale farming with those who have the information. The Center produces publications and a newsletter; sponsors conferences and seminars; holds a library of periodicals, reports and books; gives referrals; and answers requests for information.

Readers are encouraged to send us information, express views, and contact us for assistance. Mention of a specific product is intended for the reader's information — not as a recommendation of that specific product.

rBST—FROM PAGE 1

the bacterium meant that it could easily be produced in commercial quantities at a very reasonable cost. Several pharmaceutical and nonpharmaceutical companies became very interested in the product in the early 1980s. Despite the fact that rBGH is a peptide hormone and not a (much-maligned) steroidal hormone, to avoid the stigma associated with hormones, the industry agreed to change its name to bovine somatotropin (BST). Thus, its synthetic analog would be called recombinant bovine somatotropin, or rBST. Today, both names (rBGH and rBST) are still used.

Effects on Cow Productivity

Four companies involved in rBST research applied for patents for their particular brands of rBST in the early 1980s, which resulted in many misstatements, exaggerations and misunderstandings. Congressional hearings were held in June 1986. From these hearings emerged the alleged last word on rBST. The basic findings were:

- rBST, when injected into a cow, could cause a 10-25 percent increase in milk production.
- There was also a 10-15 percent increase in feed efficiency. This means that there was an effective decrease in feed costs per unit of milk produced, and therefore a lower average cost of production.
- rBST appeared to be safe both for human milk consumption and for cows.

It took until November of 1993 to gain FDA approval, and rBST was not re-

leased commercially until February of 1994. However, the controversy surrounding rBST that has existed since 1983 continued. Specifically, questions were raised about adverse health effects on animals treated with rBST, the appropriateness of the technology for an industry plagued with surpluses, the effects of increased milk production on milk prices, and the plight of the family farm in the United States. Media coverage about the impacts of rBST has been intermittent since 1983, but increased substantially from 1988-1993.

Adoption in California's Dairy Industry

In 1987, a survey of California dairy producers was carried out to determine their attitudes and concerns about rBST. A sample of 152 producers (about 7 percent of the total) was drawn randomly from a complete list of all Grade A dairy producers in California. Grants from the Giannini Foundation and the University of California Biotechnology Research and Education Program allowed the author to continue to survey the same producers every year (except 1995) to the present. In 1990, the original survey sample was increased to 262 producers to represent approximately 10 percent of the total California dairy producer population.

The overall objective of this long-term research was to survey a continuous sample of California dairy producers prior to, during, and after the commercial availability of rBST to determine a timetable

of adoption and diffusion patterns. A review of the results collected to date provides an interesting perspective on the prospective adoption of the new technology prior to and during its release. For example, the results indicate that as more information regarding a new technology becomes available, opinions and attitudes toward the new technology change, thus significantly modifying the responses to the survey.

Survey Results Before rBST Availability (1987-1993) Prospective Adoption Rates

Survey participants were asked whether they would use rBST immediately after it became available, wait to use it, or would not use it at all. Over the seven years of the survey prior to the commercial availability of rBST, responses to this question varied considerably. As more information became available and as the controversy surrounding rBST increased, survey respondents dramatically reduced their desire to use it immediately after it became available.

The proportion of respondents who said they would *not* use rBST at all increased 33 percentage points between 1987 and 1993. Similarly, the number of those who said they would use rBST dropped from a high of 55 percent in 1988 to 30 percent in 1993.

Three major concerns consistently emerged over the seven years of the survey prior to commercial availability. Most prospective users worried over public

Table 1: Adoption and Use of rBST in 1994 and 1996

	% of Respondents		% of Total Average Cows Represented		% of Cows Treated		% of Total Cows Treated	
	1994	1996	1994	1996	1994	1996	1994	1996
Current Users	18	18	30	30	25	20	8	6
Past Users	5	8	9	12	23	23	2	3
Prospective Users	18	30	19	28	22	23	4	6
Non Users	59	44	43	30	0	0	0	0

Table 2: Concerns of Past, Current and Prospective Users of rBST in 1994 and 1996 Compared to 1993
(numbers do not sum to 100 due to multiple responses)

	1993	1994	1996
Public opinion	60	12	17
Adverse prices	20	26	19
Cow "burn out"	23	52	56
Cost effectiveness	31	21	25
Application method	17	7	0
Milk quality/safety	6	5	6
Reproductive problems	17	31	16
Handler refusal of milk	20	2	12
Not enough research	11	7	0
Other	17	21	44

opinion and potentially negative consumer reactions to the use of rBST. This concern increased dramatically over the years of the survey and was considered by many to be the major reason why the California dairy industry was skeptical about the use of rBST. Many producers expressed concern over rBST's potential to increase milk production, resulting in increased surpluses of milk and a consequent decline in milk prices. Producers also expressed an increasing concern about cow "burn out" reflecting the continuing uncertainty about this issue. Others questioned the cost effectiveness of rBST and the administration method.

1994 and 1996 Preliminary Survey Results Adoption and Use of rBST

With the FDA approval of rBST in November 1993, and its commercial availability in February 1994, the survey was modified to solicit responses about current use of rBST, its use in the past, or consideration of its future use. Table 1 is a tabulation of the adoption and use of rBST in 1994 and 1996. Overall we could conclude that about 20 percent of California dairy producers were currently using rBST. Another 8 percent had used it in the past for a total rBST adoption rate of about 28 percent. Another 20-30 percent of producers reported that they

would consider using rBST in the future, defined as prospective users.

In 1994 and 1996 there was clearly still some uncertainty about rBST among its current and prospective users. Apart from concerns about the health of their herds, concern about adverse prices due to increased milk production also increased slightly in 1994 but decreased in 1996. And although concerns about the cost effectiveness of rBST decreased from 31 percent in 1993 to 21 percent in 1994 and 25 percent in 1996, this concern still ranked fourth among the concerns of current and prospective users.

Among those who were currently using rBST, have used it in the past, or were considering using it in the future, over 68 percent still had concerns about it. Table 2 tabulates these concerns.

Conclusions

A panel survey of about 260 California dairy producers between 1987 and 1993 indicated a declining interest in using rBST immediately after it became available. Preliminary results of the survey (of the continuous sample) in 1994 and 1996 indicated that about 10 percent of the total California herd was currently being treated with rBST. Average milk yield response appeared to be about 11 percent. Therefore, rBST use in California in 1994 and 1996 probably resulted

in an increase in milk production of less than 1 percent per year.

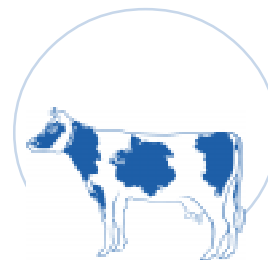
Future use of rBST will depend largely on how producers adapt the new technology to their current management styles and the effect that it will have on their profit margins in the next 2-3 years. A 1997-98 study is in progress, in which a greater number of dairy producers are included in the survey.

Publications Cited

1. Zepeda, L. The Potential Economic Effects of Bovine Somatotropin on the California Dairy Industry. Ph.D. Thesis. Davis: University of California Department of Agricultural Economics, 1988.

L.J. (Bees) Butler is a UC Cooperative Extension economist with interests in dairy and poultry marketing, food and agricultural policy, market structure and technological change, and intellectual property rights. For a complete report on the rBST surveys,

contact L.J. (Bees) Butler at (530) 752-3681, or visit his web page at <http://www.agecon.ucdavis.edu/Faculty/Bees>. ■



From Conventional To Organic: Dairy Transitions for Independence

by Susan McCue, senior publications coordinator, Small Farm Center

Albert Straus likes being independent, outdoors, and in control of his own destiny. That's why he returned in 1977 to work on his family's 660-acre dairy farm armed with a dairy science degree from California Polytechnic State University, San Luis Obispo. His parents, Bill and Ellen Straus, launched the Marin County dairy in 1941 with 23 cows named after friends and relatives.

Always environmentally conscious on their farm and in their community, the



Albert Straus and the Straus Family Creamery product line

Strauses utilized most of the practices required for organic certification for decades. When faced with rising production costs and static wholesale milk prices, Albert and his partners, Bill and Ellen, decided to launch Straus Family Creamery in 1994 and become the first organic dairy in California.

Getting Started

Previously, the Strauses produced raw milk and sold it to a co-op at a price mandated by the government. Now they would be creating their own product line, bottling their own milk, and using their own pricing strategy. To reach these goals, the Strauses originally intended to build a processing plant on the family farm. Instead, Albert found and converted an existing building six miles from the family dairy. "It gives us space to learn in and to see how things float ...," says Straus.

The Strauses' processing plant produces around 3,000 to 4,000 gallons of milk a day, and includes milk purchased from their neighbor's organic farm. But, says Albert Straus, "We're not at capacity. We could do more."

From this source flows a steady stream of organic products. The Strauses produce cream top whole milk, reduced and nonfat milk (in glass or plastic containers), whipping cream, butter, nonfat plain yogurt, cheddar and monterey jack cheeses, and nonfat quark, a European-style spreadable cheese made with Ellen Straus's recipe.

Certification Requirements

Being the first dairy in California to convert to organic meant that the Strauses had few informational resources to guide the way. Albert Straus waded through state and federal certified organic dairy requirements and found there were two essential phases in the four year process to certification. The first involves silage, which must be organically grown and harvested for three years. The second involves the herd, which must be fed only organically grown feed and kept off antibiotics for a full year.

Says Straus of the first year, "We lost about 12 percent of production from the quality of organic feeds and the availability of different feeds." At a cost of more than 50 percent of conventional feed, the organic feed is not only expensive but hard to find. The Strauses now raise about 50 percent of their feed and mill and mix feed on farm to cut costs.

Although milk production has dropped since switching to organic, Straus says the dairy's priorities have changed with the transition. "We need a certain quantity, but that's not the main goal. The main goal is to keep the cows healthy and less stressed. We're utilizing pasture more



than we used to ... and also we're cross-breeding with Jerseys." Straus explains that combining Holstein and Jersey breeds adds more valuable components to the milk rather than just adding volume. "We're looking at components and quality vs. quantity," he adds.

Homeopathic Herd Care

To meet certification requirements for the herd, Albert Straus discovered veterinary homeopathy, a new treatment that works like a vaccine. Using homeopathic treatments on the dairy's 250 cows brought the cull rate down to 23 percent. "We used to be 30 to 35 percent when we were conventional," says Straus, who adds, "We try to keep on top of a lot of the management to prevent disease, and if we see signs of cows getting sick, try to do something right away."

Although transitioning from conventional to organic cost the Strauses between \$100,000 and \$150,000, and starting up the Straus Family Creamery brought the total expenditure to more than \$500,000, the Straus family's gamble is paying off. Sales totalled close to \$4 million in 1998, with a rich product line placed in more than 600 retail outlets, predominantly in northern California, but also in Arizona, Nevada, and New Mexico.

Gaining access to retail markets initially was not difficult, says Albert Straus, because of California residents' demands for organic products and the lack of competition. But, says Straus, "It's getting more and more competitive now, and it's taking a little more work to be able to break into markets and get things going."

To meet that challenge, the Strauses will continue to develop new products. They also will stay with in-store tastings as their predominant marketing tool. "It's relatively inexpensive and gets to more

people directly that way," says Straus, who adds that some people still prefer to receive milk the old fashioned way. His clientele include "people who are nostalgic about the glass, who remember it from their childhoods. We still have one driver who delivers to households in Marin, Sonoma, and San Francisco."

Proposed National Organic Rule

Will the proposed national organic regulations affect the Straus Family Creamery? Straus hopes that his family's dairy already is fulfilling the new requirements.

"We've been in the forefront trying to fight for clear and pretty restrictive uses of antibiotics or hormones," says Straus. "We don't want to have them allowed in production at all because it's been a very clear message we try to send to the consumers that they are not in organic milk."

Straus adds that the clearly defined proposed regulations might convince conventional dairies to convert to organic. "I think it's a good environmental message that the farmers can send as well as market, and they should be able to make a decent living from it."

For those who are considering transitioning from conventional to organic, Straus suggests contacting the local agri-



Straus feed mill

cultural commissioner, talking with organic producers, or connecting with organic dairy cooperatives such as Horizon Organic Dairy. ■



Publications

The Homeopathic Treatment of Beef and Dairy Cattle, imported from England, covers issues including breeding and medicine, management, and nutrition. Cost: \$28 plus \$2.80 shipping and handling or \$5.60 international shipping. Contact: Acres U.S.A., P.O. Box 8800, Metairie, LA 70011; (800) 355-5313.

Hot Peppers and Parking Lot Peaches: Evaluating Farmers' Markets in Low Income Communities presents case studies of nine farmers' markets in California and the East Coast. Cost: \$10 plus \$2 shipping and handling. Contact: The Community Food Security Coalition, P.O. Box 209, Venice, CA 90294; (310) 822-5410.

The 1999 Directory of Flower and Herb Buyers lists buyers of flowers, herbs, seeds, roots and other botanicals, state by state. Cost: \$9 plus \$1 shipping and handling. Contact: Prairie Oak Seeds, P.O. Box 382, Maryville, MO 64468; (660) 582-4084.

The 1999 Book Catalog contains 26 pages of special interest books and reports on topics including tillage systems, crops, livestock, farm and ranch management, and farm machinery management. Cost: Free. Contact: Lessiter Publications, P.O. Box 624, Brookfield, WI 53008-0624; (800) 645-8455.

Steel in the Field: A Farmer's Guide to Weed Management Tools presents information about improved cultivation tools, cover crops, and new cropping rotations. Cost: \$18. Contact: Sustainable Agriculture Publications, Hills Building, Room 10, University of Vermont, Burlington, VT 05405-0082; (802) 656-0471.

Pesticide Safety: A Reference Manual for Growers, is a resource for growers preparing for their Certified Private Applicator examination. Cost: \$7. Contact: UC DANR Communication Services, 6701 San Pablo, Oakland, CA 94608; (800) 994-8849.

Correction: the Fall 1998 issue of *Small Farm News* ran an incorrect phone number for ordering the book **New Options for Agricultural Customers: California's Electric Industry Restructuring**. The correct phone number is (916) 654-4019.

Resources

Web Sites

Animal Science Extension, UC Davis
<http://animalscience.ucdavis.edu/extension/default.htm>

Downloadable fact sheets on dairy management and health, livestock management, and aquaculture.

Openair Market Net Discussion Forum
<http://www.wiseman-enterprise.com/openair/>
Discussion forum on topics including farmers' markets and street markets.

Cooperative Extension Poultry Home Page
<http://ext.ucdavis.edu/avs/avsext.htm>
Includes poultry science fact sheets, educational programs, software programs, and industry news.

California Rare Fruit Growers
<http://www.crfg.org/>
Includes descriptions of 250 rare and unusual edible plants.

Plants of Horticulture
<http://www.hcs.ohio-state.edu/plants.html>
A searchable database of 1,071 high quality images and horticultural descriptions for 591 selected ornamental plants.

Farm Safety Program, Cooperative Extension, UC Davis
<http://www.engr.ucdavis.edu/~bae/FarmSafety/FARMSAF.HTML>
Downloadable farm safety fact sheets in Spanish and English.

California Dairy Programs, California Department of Agriculture
<http://www.cdffa.ca.gov/dairy/>
Information on dairy marketing, milk pooling, and 1997 California dairy information.

USDA Farmer Direct Marketing Site
<http://www.ams.usda.gov/directmarketing>
Features a monthly newsletter, publications, a bibliography, and schedule of national and regional conferences and workshops.

From the Agriculture Fact Book 1998—USDA Office of Communications

Trends in Dairy Consumption: What Do Americans Eat?

In 1996, each American consumed an average 77 pounds more of commercially grown vegetables than in 1970, 63 pounds more grain products, 54 pounds more fruits, 32 pounds more poultry, 10 gallons more milk lower in fat than whole milk, 20.5 pounds less red meat, 73 fewer eggs, and 17 gallons less whole milk.

In 1994 (the latest year for which nutrient data are available), total meat, poultry, and fish contributed nearly a third less saturated fat to the per capita food supply than in 1970, and beverage milk contributed 50 percent less saturated fat. Similarly, eggs' contribution to total dietary cholesterol declined by a fourth between 1970 and 1994, and beverage milk's contribution declined by a half.



clined by half since 1970 due to lower beverage milk consumption and a trend toward lower fat milks. Americans cut their average consumption of fluid whole milk by two-thirds between 1970 and 1996, and nearly tripled their use of lower fat milks. But, because of the growing yen for cheese and fluid cream products, there was no overall reduction in the use of milkfat. Annual per capita consumption of fluid milk declined from 31 gallons in 1970 to 24 gallons in 1996.



The beverage milk trend is toward lower fat milk. While whole milk represented 81 percent of all beverage milk (plain, flavored, and buttermilk) in 1970, it share dropped to 36 percent in 1996. In 1996, plain whole milk accounted for 37 percent of all plain beverage milk, 2-percent reduced fat milk for 35 percent, and light (0.5-percent and 1-percent) and fat-free (skim) milks combined for 28 percent. In terms of average consumption, light and fat-free milks increased 25 percent in 1991-96, 2-percent milk declined 12 percent, and whole milk declined 15 percent.

Total beverage milk contributed 50 percent less fat to the average American's diet in 1996 than in 1970. In contrast, rising consumption of fluid cream products meant that they contributed nearly two times as much milkfat to the average diet in 1996 as in 1970. Per capita consumption of fluid cream products—half-and-half, light cream, heavy cream, eggnog, sour cream, and dips—jumped from 9.8 half pints in 1970 to 16.4 half pints in 1996. On balance, however, annual per capita consumption of milkfat from all fluid milk and cream products declined by 36 percent in 1970-96, from 9.1 pounds per person to 5.8 pounds.

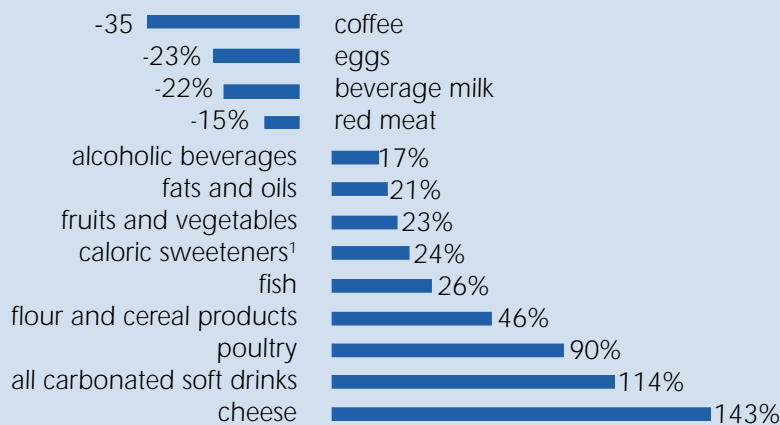
Average consumption of cheese (excluding full-skim American and cottage, pot, and baker's cheeses) increased 140 percent between 1970 and 1996, from 11 pounds per person to 28 pounds. Lifestyles that emphasize convenience foods were probably major forces behind the higher consumption. In fact, two-thirds of our cheese now comes in commercially manufactured and prepared foods (including foodservice), such as pizza, tacos, nachos, salad bars, fast-food sandwiches, bagel spreads, sauces for baked potatoes and other vegetables, and packaged snack foods. Advertising and new products—such as reduced-fat cheeses and resealable bags of shredded cheeses, including cheese blends tailored for use in Italian and Mexican recipes—also had an effect.

From 1970 to 1996, consumption of Cheddar cheese increased 59 percent to 9.2 pounds per capita. Consumption of Italian cheeses quintupled during the same period, to 10.8 pounds per person in 1996. For example, per capita consumption of Mozzarella—the main pizza cheese—in 1996 was 8.5 pounds, more than 7 times higher than in 1970. ■

Milkfat Consumption

In 1996, Americans drank an average of 22 percent less milk but ate nearly 2-1/2 times as much cheese (excluding cottage types) as in 1970. Annual per capita consumption of milkfat from fluid milk products (beverage milk and yogurt) has de-

The U.S. per capita food supply changed markedly between 1970 and 1996



¹includes caloric sweeteners used in soft drinks

The Specialty and Minor Crops Handbook

Updated and expanded from the first edition, the *Specialty and Minor Crops Handbook* contains 63 crop profiles, a comprehensive bibliography, a glossary of Asian vegetables, and an index to common and scientific crop names.

To order, call the Small Farm Center at (530) 752-8136. Cost: \$35 plus tax and shipping

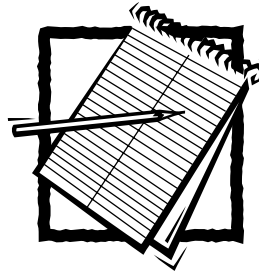


The Small Farm Handbook

This practical guide covers topics including livestock and crop production, buying property and equipment, dealing with taxes and regulations, and marketing.

To order, call the Small Farm Center at (530) 752-8136. Cost: \$20 plus tax and shipping.

News Notes



■ The U.S. Department of Agriculture (USDA) is preparing to administer a \$7 billion farm aid package, reports the January 1999 *Farm Service Agency* newsletter. Nearly \$2.4 billion will be used for emergency aid to farmers reeling from a year of flood, drought and collapsing Asian markets. About \$375 million will be used to provide incentives through discounts of up to 35 percent for farmers to buy more and better crop insurance. The remaining \$2 billion will be dispersed to farmers with losses caused by events such as floods or crop disease.

Sign ups for the money will begin February 1, 1999, and farmers will be eligible for up to \$80,000 in direct aid. Farmers will be eligible for either single-year losses for 1998 or multi-year losses for any three or more years between 1994 and 1998. All crops, insured or not, are eligible for the single year payments. However, the multi-year payment will cover only insured or non-insurable crops. For more information, contact your local Farm Service Agency office.

■ The National Cancer Institute (NCI) is conducting a cohort study of 90,000 farmers and their wives in Iowa and North Carolina in the hope of laying to rest the question of whether pesticide exposures cause elevated cancer rates, according to articles in the May 6, 1998, *Journal of the National Cancer Institute*, and the September 1998 *Environmental Toxicology Newsletter*. Part of the difficulty in pinning down epidemiological data is that farmers in differing geographical locations grow various crops using different insecticides and herbicides, or, in the case of organic farmers, no synthetic chemicals. The NCI Agricultural Health Study is being conducted in collaboration with the National Institute of Environmental Health Sciences and other agencies.

■ An oversupply of hogs caused pork prices to drop to their lowest level in 40 years, according to an *Ag Alert* January 1999 article. USDA statistics indicated that pork production was up 9.3 percent in December 1998 over December 1997, resulting in a drop in prices. Pork producers are losing about \$75 per hog, and USDA stepped in to assist the struggling small hog producers with approximately \$50 million in direct cash payments. The maximum payment was \$2,500 per operation.

■ Grape growers can obtain virus-free and state-certified planting, budding, or grafting stock from nurseries participating in the California State Department of Food and Agriculture (CDFA) California Grapevine Certification Program. Participating nurseries plant registered field increase blocks with stock provided by the Foundation Plant Material Service (FPMS) under the supervision of CDFA. The nursery's increase block is then used to provide certified budding, grafting, or planting stock to growers. Lists of registered grape varieties/selections and California nurseries participating in the certification program are available from FPMS at (530) 752-0530.

■ Assembly Bill 1998 (Thomson), passed by California legislature in fall 1998 and sponsored by the California Alliance with Family Farmers (CAFF), allocates \$2 million in new state funding to help farmers reduce reliance on agricultural chemicals. AB 1998 follows up 1994 legislation, AB 3383, which established the Biologically Integrated Farming Systems (BIFS) program through the UC Sustainable Agriculture Research and Education Program (SAREP).

■ Larry Thompson, a second-generation berry grower from Boring, Oregon, was recently elected the first farmer chair of the Western Sustainable Agriculture Research and Education (SARE) effort. Western SARE is a competitive grants program administered by the USDA and mandated by the U.S. Congress.

Thompson vows to bring a grassroots view to the job, and says when he considers sustainable agriculture policy, or research, education, and professional development priorities, his foremost question will be "Does it work at the grower level?"

■ The U.S. EPA Office of Pesticide Programs (OPP) seeks public comment on its preliminary risk assessments for 12 pesticides. All belong to a class of pesticides known as organophosphates, which OPP is currently reviewing under a more stringent set of criteria established by the Food Quality Production Act. Comments are requested by March 9. Visit the EPA web site at <http://www.epa.gov/pesticides/op/> or contact OPP Pesticide Docket office at (703) 305-5805.

Clover Stornetta —FROM PAGE 1

product could generate for consumers. The company decided to develop a North Coast Certified Dairy program based on four key criteria. The first criterion is scientifically based in safety: it utilizes lab pasteurization, somatic cell counts, and bacterial measures, particularly with regards to *e.coli*. The second criterion focuses on ranch beautification — the esthetic appearance of the ranch. The third criterion involves a signed affidavit by dairy producers who promise not to use BST in their production. The fourth is an understanding that each dairy that enters into a marketing arrangement with Clover Stornetta will develop a farm plan geared towards sustainable agricultural practices.

Noting that each farm is unique and starts from a different set of circumstances, Benedetti said there is no one size that fits all in terms of a package of practices. Nonetheless, the expectation is that individual dairy producers will, with each iteration of their farm plans, take a portion of their dairy operations and “push the envelope” as far as agricultural sustainability is concerned. Some of the issues that have emerged as high priority with respect to sustainability include dairy

waste management and nutrient budgeting. One of the side benefits of these criteria is that the producers stay ahead of the regulators by adopting practices that prevent environmental hazards.

The Clover Stornetta North Coast Excellence program involves 43 of the best managed dairies on the North Coast, according to Benedetti. The program is developed by a team of dairy producers and Clover Stornetta representatives who build its criteria and parameters. Annual dinners allow participants to celebrate accomplishments and build enthusiasm for meeting future goals.

Goals and Prospects

According to Benedetti, Clover Stornetta is well positioned to grow in the marketplace, and its producers will gain advantages by being able to increase their own levels of production. Clover Stornetta is well integrated into the community through President Benedetti, who serves on the board of 10 nonprofit organizations.

Additionally, valuable market intelligence comes from a progressive group of retailers along the coast, particularly natural foods markets — the fastest growing

segment of the food retail industry. Eighty percent of the natural food markets in the area are supplied by Clover Stornetta.

The company's goal is to have the highest quality milk in the United States. It rewards its producers with higher prices as an incentive to meet the dairy's criteria. On the near horizon is a plan to break into the emerging market for organic milk. Clover Stornetta already bottles milk for Horizon Organic and Straus Family Creamery (see article in this issue) and will soon bottle organically labeled milk for St. Anthony's Farm, which is run by a non-profit organization oriented to rehabilitation of urban residents in poor situations.

In terms of product development, Clover Stornetta's position is “Let consumers decide.” While clearly not a recipe for every dairy operation, the Clover Stornetta approach shows the vision, market analysis, and responsiveness that may enhance the sustainability of many dairy operations on the northern California coast while building and sustaining closer links with urban-based consumers. ■

California Milk Facts



California is the leading milk producing state. California milk production reached 27.6 billion pounds in 1997, an increase of 48.5% since 1988.



In 1997, California milk production exceeded the production levels in most regions in the U.S. and rivaled the total production of 10 Northeastern states (Connecticut, Delaware, Maine, Maryland, Massachusetts,

New Hampshire, New Jersey, New York, Pennsylvania, and Vermont.



From 1992 to 1997, milk production in California increased by 20%. Only the Mountain region (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) has a larger percent increase during the same time period (33%).



Since 1992, milk production in the Delta States region (Arkansas, Louisiana, Mississippi) has shown the largest percentage decrease (21%), followed by the Appalachian region (Kentucky, North Carolina, Tennessee, Virginia, West Virginia) (18%) and the Northern Plains region (Kansas, Nebraska, North Dakota, and South Dakota) (16%).

calendar

FEBRUARY

22

**San Diego County Agricultural Town Hall Meeting
San Diego, CA**

Participants will discuss strategies to help growers capitalize on the region's economics and unique characteristics.

Contact: Mary Jo Ingalls, UC Cooperative Extension San Diego County, 5555 Overland Avenue, Bldg. 4, San Diego, CA 92123; (619) 694-2845.

22-26

**Feeding and Balancing the Soil
Mt. Palomar, CA**

Five day intensive short course on soil quality and nutrient balancing.

Contact: Brenda Roberts, The Center for Living in Harmony, 13802 Little Creek Lane, Valley Center, CA 92082; (760) 749-9634.

22-26

**Pacific Egg and Poultry Association (PEPA)
75th Annual Convention****Palm Springs, CA**

Reports by officers of both the PEPA board and the scholarship and research foundations as well as several guest speakers and presentations.

Contact: Debbie Murdock, 1521 I Street, Sacramento, CA 95814; (916) 441-0801.

23

**Farmstead Cheesemaking
Point Reyes Station, CA**

Workshop designed to help regional cheesemakers and dairy operators exchange ideas, build skills, and diversify local agriculture.

Contact: Effie Cook, UC Cooperative Extension Marin County, 1682 Novato Blvd., Suite 150 B, Novato, CA 94947; (415) 499-4204.

25

**San Joaquin Valley Strawberry Growers Meeting
Fresno, CA**

Discussion includes pests, methyl bromide alternatives, varieties, and fertilization.

Contact: Richard Molinar, UC Cooperative Extension Fresno County, 1720 S. Maple Ave, Fresno, CA 93702; (559) 456-7555.

27

**"Good Bugs" for the Garden
Santa Cruz, CA**

Pest control expert Sean Swezey discusses beneficial insects.

Contact: John Fisher, Community Outreach Coordinator, Center for Agroecology and Sustainable Food Systems, UC Santa Cruz, 1156 High St., Santa Cruz, CA 95064; (831) 459-3248.

MARCH

4-7

Cultivating the Harvest**Inland Northwest Small Acreage Farming Conference
Moscow, ID**

Conference topics include sustainable and organic production systems, producing and marketing specialty crops and value-added products, and effective farm management.

Contact: Vickie Parker Clark, Kootenai County Extension, 106 E. Dalton Ave., Coeur d'Alene, ID 83815; (208) 667-6426.

13

Understanding Agricultural Leases**UC Davis**

Topics cover the rights and liabilities of landlords and tenants under standard agricultural lease provisions and selected specialized lease clauses.

Contact: Debbie Roberts, University Extension, University of California, 1333 Research Park Drive, Davis, CA 95616-4852; (530) 757-8691.

13

**Controlling Garden Pests with Integrated Pest Management
San Luis Obispo, CA**

Participants learn about integrated pest management, a method of identifying and treating pests with a combination of preventive and control techniques.

Contact: Mary Bianchi, UC Cooperative Extension San Luis Obispo County, 2156 Sierra Way, Suite C, San Luis Obispo, CA 93401; (805) 781-5940.

16-17

Harvest 1998: Sensory Evaluation of Olive Oil**UC Davis**

Participants learn how to evaluate olive oils by tasting the new 1998 releases from California and Europe.

Contact: Debbie Roberts, University Extension, University of California, 1333 Research Park Drive, Davis, CA 95616; (530) 757-8691.

29

**31st California Nematology Workshop
Yuba City, CA**

Topics include nematode biology, diagnosis, and behavior.

Contact: Wendy Kercher, University Extension, University of California, 1333 Research Park Drive, Davis, CA 95616; (530) 757-8997.

APRIL

22

**Risk Management and Estate Planning Seminar
Escondido, CA**

One day seminar covers risk management topics including labor management risks, financial risks and production issues, and succession and estate planning.

Contact: Ramiro Lobo, UC Cooperative Extension San Diego County, 5555 Overland Avenue, Bldg. 4, San Diego, CA 92123; (619) 694-3666.

Visit our web site for our extended calendar at <http://www.sfc.ucdavis.edu/cgi-win/sfcweb.exe/listevents>

Winter Recipes

Cheese Pie

1-1/2 cups shredded cheddar cheese (6 oz.)
 1-1/2 cups shredded monterey jack (6 oz.)
 1 medium onion, chopped
 2 tablespoons flour
 4 eggs
 1 cup milk
 1/2 teaspoon salt
 1/2 teaspoon dry mustard
 1/2 teaspoon Worcestershire sauce
 2 medium tomatoes, sliced

Mix cheeses, onion and flour. Spread in a greased pie plate, 10 x 1-1/2 inches, or a round 9-1/2 inch dish. Beat eggs slightly; beat in milk, salt, mustard and Worcestershire sauce. Pour over cheese mixture. Bake uncovered in 350 degree oven until set, 30 to 40 minutes. Let stand 10 minutes; arrange tomato slices around the edge of the pie, overlapping slices slightly.

Source: Straus Family Creamery, <http://www.strausmilk.com/strecipe.htm>

Potato-Kale Bake

1 lb. steamed potatoes
 1 finely chopped leek
 3 finely chopped green onions
 2 diced onions
 1 bunch stemmed kale
 salt and pepper to taste
 1 1/2 tablespoons oil



Heat sauté pan over medium flame, and add cold oil to pan. Add leeks and green onions, and cook for about one minute. Add diced onion and cook for a few minutes longer, until slightly translucent. Rinse the kale. Allow the water to cling to the kale, and add it to the mixture.

Steam the kale and onion mixture until tender, then chop fine. Coarsley mash potatoes with a little oil. Gently combine the finely chopped greens and the potatoes. Place in a casse-rolé dish and bake, uncovered, for 15 minutes at 400 degrees.

Source: Online Service Providers, <http://downwithopp.com/miseenplace/r1082.html>

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